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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,123	10/21/2003	Bradley M. Houghtaling	85413AEK	3653

7590 02/27/2006

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EXAMINER	
JACKSON, MONIQUE R	

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/690,123	HOUGHTALING ET AL.	
	Examiner	Art Unit	
	Monique R. Jackson	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 11/21/05 has been entered. Claims 1-48 are pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 9-19, 22-23, 25, 29-33, 35-38, and 41-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinkai et al (USPN 5,599,649.) Shinkai et al teach an optical recording medium comprising a transparent substrate and a 1-100 micron thick surface layer obtained by UV radiation curing a coating film comprising copolymerizable acrylate monomers and oligomers, including those as instantly claimed such as urethane acrylates and multifunctional acrylates such as pentaerythritol triacrylate, wherein the radiation cured surface layer further comprises 1 to 50wt% lipophilic smectite particles having a mean particle size of 0.2 to 20 microns, more preferably 0.5 to 10 microns (*reads upon organic modified layered clay particles*) (Abstract; Col. 2, lines 58-67; Col. 5, line 26-Col. 7, line 12; Col. 7, lines 42-53; Col. 3, lines 13-

20 and 27-38; Col. 8, lines 20-40; Col. 8, line 57-Col. 9, line 51; Col. 11, line 30-Col. 14, line 40.) Shinkai et al further teach that the curable resin composition forming the surface layer may also comprise radiation sensitive curing agent or UV photoinitiator, organic solvent and other conventional additives (Col. 6, line 66-Col. 7, line 36; Col. 9, lines 59-65; Col. 10, line 14-30; Col. 14, lines 12-29.) Shinkai et al also teach that the substrate is formed of a resin or glass material which is substantially transparent, preferably a transmittance of at least 88%, wherein resins are preferred substrate materials, with examples including polycarbonate resins, acrylic resins, amorphous polyolefins and TPX (Col. 15, lines 55-65.) With respect to claims 13-19, the Examiner takes the position that the surface layer taught by Shinkai et al would inherently result in the same gloss and haze characteristics instantly claimed considering the composition and method of producing the cured layer are the same as instantly claimed.

5. Claims 1, 5, 9, 22-25, 29-33, 37, 41, 45 and 47 are rejected under 35 U.S.C. 102(a) or (e) as being unpatentable over Miyatake et al (USPN 6,773,121.) Miyatake et al teach an antireflection film for use in producing display screens such as for liquid crystal displays, wherein the film comprises a hard coat layer formed on a transparent substrate having a 90 or more percent light transmission, such as polyester, polycarbonate, and cellulose substrates like triacetyl cellulose; wherein the hard coat layer is formed by radiation curing a UV curable resin coating comprising acrylic monomers and/or oligomers with preferably 3 to 6 functional groups, smectite particles having a particle size of 0.1 micron or less as thixotropy agents for the UV curable resin, a UV polymerization initiator, and fine transparent particles having a mean particle diameter of 1 to 10 microns in an amount of 1 to 20 parts by weight to resin 100 parts by weight (Abstract; Col. 1, lines 7-14; Col. 4, lines 26-50; Col. 5, line 14-Col. 6, line 28.) Miyatake et al

teach that the hard coat layer is formed by any proper coating method wherein the resin may be diluted with usual solvents including the organic solvents instantly claimed (Col. 6, lines 29-45.)

Claim Rejections - 35 USC § 103

6. Claims 2-4, 6-8, 10-21, 26-28, 34-36, 38-40, 42-44, 46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyatake et al in view of Koyama et al (USPN 6,572,961) or Michihata et al (USPN 6,008,940) and in further view of Higarashi et al. The teachings of Miyatake et al are discussed above. Though Miyatake et al teach that the hard coat layer is formed from UV curable multifunctional acrylate monomers and/or oligomers, preferably comprising 3 to 6 functional groups, Miyatake et al do not specifically teach the instantly claimed acrylate compounds, however, the claimed acrylate compounds are well known and conventionally utilized in the art to produce UV cured film having excellent optical properties as taught by Koyama et al and Michihata et al and would have been obvious to one having ordinary skill in the art at the time of the invention. Though Miyatake et al teach the use of fine transparent particles 4, including various inorganic oxide particles, having the instantly claimed particle size and weight content, and though Miyatake et al do not teach that smectite particles may be utilized in the radiation curable composition as a thixotropy agent; Miyatake et al do not specifically teach that the fine transparent particles 4 are smectite particles or in general, layered clay particles, which may be organically modified. However, as previously recited, it is known in the art that clay particles, including the instantly claimed layered clay particles, are functionally equivalent transparent particles to those disclosed by Miyatake et al and given their excellent transparency are suitable for use in optical films as taught by Higarashi et al. Further, it is well established in the art that clay particles, including layered clay particles,

to be dispersed in organic resins, may be surface modified with organic groups, such as lipophilic smectite, to facilitate dispersion of the inorganic clay particles in the organic resin, and hence would have been obvious to one having ordinary skill in the art at the time of the invention. In addition, one having ordinary skill in the art at the time of the invention would have been motivated to determine the optimum particle type, particle size and particle content to provide the desired optical properties, such as transparency, haze and gloss for the optical display taught by Miyatake et al, based on the desired end use, considering it is known in the art that the particle size and amount of a particular inorganic particle is a result-effective variable affecting the above optical properties.

Response to Arguments

7. Applicant's arguments, see page 7, filed 11/21/05, with respect to the rejection(s) of claim(s) 1-48 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shinkai et al or Miyatake et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monique R. Jackson
Primary Examiner
Technology Center 1700
February 21, 2006